voltage regulation circuitry in electrical communication with said brake control unit;

said CPU in electrical communication with a bus that is in communication with at least said brake activator such that said CPU provides a variable brake activation signal to said brake activator;

a pressure sensor for providing pressure information to said CPU, said pressure sensor measuring a pressure within a master brake cylinder of a towing vehicle; and

a voltage booster adapted to receive electrical energy from said battery and provide boosted voltage to said brake activator.

14. (Amended) A method for operating a brake controller system comprising:

receiving, by a CPU, a pressure signal indicating an amount of pressure in a master brake cylinder of a towing vehicle;

signaling a voltage booster, by said CPU, to supply additional voltage above a towing vehicle standard voltage; and

actuating the towed vehicle brakes.

15. (Amended) A method for operating a brake controller system for a towed vehicle comprising:

sensing brake fluid pressure within a towing vehicle's master brake cylinder;

sensing current in an electric brake system on said towed vehicle;

calculating with a brake controller unit the appropriate amount of brake force to be applied by a brake activator;

determining, by said CPU, whether a voltage booster is required to supply additional voltage to said towed vehicle's electric brake system;

actuating said towed vehicle's electric brakes without actuating said towing vehicle brakes by use of a manual thumb brake switch;

generating a signal from said brake controller unit that is based upon and directly proportional to a linear position of the manual thumb brake switch; and

activating said brake activator with said signal; and

applying an appropriate amount of brake force with an appropriate amount of voltage as directed by said brake controller unit.

16. (Amended) The method for operating a brake controller system according to claim 15 further comprising:

signaling brake lights and a brake activator with said brake controller unit over a brake line by multiplexing signals over said brake line.

Please add the following new claims:

18-19. A trailer brake system comprising:

a master brake fluid pressure sensor for measure a brake fluid pressure of a brake system in a towing vehicle and for providing a brake fluid pressure signal;

a brake controller for controlling a brake activator, said brake activator being for activating a trailer brake, said brake controller comprising a CPU for receiving said brake fluid

pressure signal and for generating a signal for said brake activator so that said trailer brake is activated with a force related to said brake fluid pressure signal.

20. The trailer brake system of claim 19, further comprising:

a finger control for actuating said trailer brake system without actuating said brake system of said towing vehicle, said finger control being electrically connected to said CPU, said finger control generating a braking signal based on a movement or position of said finger control.

21. The brake controller system of claim 19, further comprising:

a display connected to said CPU for displaying trailer brake related information to user during operation of said trailer brake system, said trailer brake related information being at least one of Brake Gain; Time; Date; Last Maximum Brake; Last Maximum Stroke; Last Test: Maximum Brake; Last Test: Maximum Stroke; Truck Control: Serial Number; Truck Control: Date Manufactured; Truck Control; Born on Date; Trailer Control: Serial Number; Trailer Control: Date Manufactured; Trailer Control: Born on Date; and Run Diagnostic: Test Brakes.- -